

Aviation News

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Latest Grumman Amphibian: *Newest in a long line of widely known amphibian planes named for water fowl, which included the Duck, the Gray Goose, and the Widgeon, is the Grumman Mallard, 8-10 place amphibian, aimed at air carrier, industrial company and private owner markets. (Story and additional pictures on pages 11-12)*

Airlines Launch Big Drive For Air Freight Business

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AAF-ATA Joint Group Will Plan Transport Program

Coordinated design, production effort sought; WD ponders shift to aerial army.Page 9

New Cockpit Designs Stress Pilot Crash Protection

Cornell backs changes in structure and interior after crash injury research.Page 15

Industry Warned About War Time Methods in Peace

California Tech professor cautions on production emphasis in postwar management.Page 21

Area Certificate Issue Clouded in Cases Before CAB

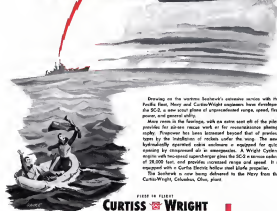
Counsel and examiners disagree on Board's right to issue area-to-area routes.Page 26

Court Stays CAB Review of Reopened Hawaiian Case

Questions Board's authority to review decision sanctioned by President.Page 28

The Navy's NEW Seahawk

—for Reconnaissance and Rescue



Drawing on the various Seahawk's extensive service with the Pacific Fleet, Navy and Coast-Wright engineers have developed the SC-2, a new scout plane of unprecedented range, speed, firepower, and general utility.

More room in the fuselage, with an extra seat aft of the pilot, provides for air-sea rescue work or for reconnaissance photography. Forward has been increased beyond that of previous types by the installation of retractable wing. The new hydroplaning equipped cabin conforms to equipment for transportable air in emergencies. A Wright Cyclone engine with two-speed supercharger gives the SC-2 a maximum speed of 28,000 feet, and provides increased range and speed. It is equipped with a Curtiss Electric hollow steel blade propeller.

The Seahawk is now being delivered to the Navy from the Curtiss-Wright, Columbus, Ohio, plant.

FIRST IN FLIGHT

CURTISS WRIGHT
Airplane Division
COLUMBUS, OHIO

Developing Flight to Meet the Future

THE AVIATION NEWS

Washington Observer



MITCHELL BOARD IDEA SURVIVES—Sen. Mitchell will continue to press for his six policy board regardless of President Truman's executive order expanding the old Air Coordinating Committee. With addition of the Post Office and CAB as voting representatives, the group covers more interdepartmental ground, but it is still strictly a Federal mediator between aviation agencies. Mitchell's board would take a detached view of broad civil and military aviation problems.

MOORE MILITARY SECURITY—There is no doubt that the Pentagon is worrying about our relations with Russia, far more than our civilians. As a result, Washington news men are running into a series of snags that is reminiscent of wartime. Every slightest development in aeronautical research is going on the security list. Most aviation subjects to be added concern supersonic work. A press demonstration of the giant Convair B-56 bomber which had been scheduled for last month has been canceled by the AAF, and so further information about the big ship will be released for the time being. Another AAF press trip to aerial guided missile developments at Wendover Field has been canceled. The Navy has already cited new security steps taken to protect details of future speed tests at Anson Dry Lake by the AAF.

PROCUREMENT FUNDS IN DANGER—The aircraft industry is worried over the huge amount of unobligated funds piling up in AAF and Bureau of Aeronautics. Total is now believed to be about \$500,000,000. Both services hesitate to grant any additional contracts, because manufacturers—for reasons not their fault—are many months behind in delivery on present schedules. Funds appropriated for 1957 procurement by AAF and BuAer are not so large as believed necessary to keep the industry healthy over a long period, yet the huge amount unobligated will have an adverse effect upon 1958 procurement requests—now only a few months away.

PROFIT LIMITATION OBIT—Industry officials feel certain now that the forthcoming Congress will repeal the profit limitations on aircraft and shipbuilding contained in the Winco-Trammell Act. Bill for repeal was introduced last session, but has come tangled in the confirmation fight. Now the Comptroller General has submitted a report to the Budget Bureau recommending repeal. This aligns General Accounting Office with Treasury, War and Navy which previously were the same recommendation to Budget.

NON-SCHEDULE LINE UP SUPPORT—Air Transport Association is preparing to combat all cargo route applications which threaten its position as the nation's largest air freighter. The association is counting on strong backing from municipal groups and chambers of commerce to establish the need for confirmation of their service. That the political battle between the two groups moves to the local area.

AIR PARCEL POST DRIVE NEXT—Post Office officials, having made a historic move in the reduction of foreign air mail rates in a sequel to domestic ones, will turn their attention to air parcel post as their next major objective. Parcel post legislation was sent through to the last Congress adjourned, and the department hopes for early action by the next Congress. Goal Sullivan, Second Assistant Postmaster General, hopes to see more federalities in the northwest, southwest and southeast sections of the country. He will move to bring RFD under the jurisdiction of his office and intends to start a survey next year of the entire parcel network for measures that can be taken to expedite mail.

BRITISH LOOK AHEAD ON TRANSPORTS—Visitors returned from England in recent weeks report that British aircraft spokesmen concede America's present leadership in transport, but promise that within five years they will have superior models. This coincides with pledges made throughout the world by British foreign trade missions. Concentration on jet and turbine transport is evident in England. Meanwhile, with new purchases anticipated by KLM of Convair 240s and by Air France of the 246 or Martin 204, for European short-range services, British Airways is reconsidering its decision, already announced, to buy a fleet of Vickers Vikings. Instead, it appears at this point that further purchases by the British of U. S. planes are likely to be added to the recent deal for Constellation and Stratocruiser. The resulting arrangement is expected to secure a favor in Parliament.

SUBCONTRACTORS IN ALA?—At the suggestion of the Army and Navy, Aircraft Industries Association is considering a plan to extend some form of associate membership to the largest wartime subcontractors, such as automobile and refrigerator manufacturers. Such purpose would be to provide a method of keeping such companies advised of industrial preparation plans. Subcontractors would in no sense be full members of AIA.

The Birdmen's Perch

By Major Al Williams, AIAA, "TATTERED WING TIPS,"
Gulf Aviation Products Manager, Gulf Bldg., Pittsburgh 30, Pa.

"It takes 99 men to fly a single B7F off a carrier!"

And Perch Pilot Billy Sorel, Enchanted, AIAA, is back for the 3rd time (I suspect). Facts: (a) you a Senior Perch Pilot (you know) and

"A single cylinder in the Navy's F-4 develops more horsepower than a whole auto engine!"

While you encounter lots of editorial men in the editorial on the top of the page, remember to launch proof, and you, too, can get a handsome, engraved type certificate!

The kind the real Perch Pilot use!

SPOT NEWS

Maybe that'll happen you.

Most airplane engines are considered low speed engines—by comparison to the average auto engine.

And the bulk of the horsepower of a plane engine remains at moderate and constant revolutions.

But all over and through the engine there are hot spots, where 350° to 750° temperatures are normal! It's at these points that your engine oil really does a living.

It is at these points that Gulfgrade does its important job: to break down into one too and vitamin.

And of course any old Perch order knows that the newer Gulfgrade Oil is even stickier and tougher than the exclusive Gulf Aviation Products which is true, more cutback and thinned from than already refined oil!

Maybe this comes along with your accounts for the new supply to many pilots these toward Gulfgrade Oil!



TEAR-IN-THE-EYE DEPT.

It is not just they to tear between a sad fact

Test pilots are on the way out!

Both kinds, too! The kind that passed through the air one Hollywood, shooting wings for comfort. And the kind that your gaudy looks of up coming study and data analysis for every twenty minutes they spend in test track ditches!

Pray soon we'll be both men both!

Here's how they die now

They took a television transmitter in the test ship—along with some controls. A full air around on the ground, as a "wonder" ship, and test of dive test, etc. by sucking his lungs out a hole control box.

And a telephone connect on the ground goes constant continuous readings while another pilot grips engine and records all the loads and stress imposed on the airplane!

Back? What?

Gulf Oil Corporation and Gulf Refining Company...makers of



VOLUME 8, NUMBER 16

Aviation News
McGraw-Hill Publishing Co., Inc.

October 14, 1946

Airlines Launch Vigorous Drive To Capture Air Freight Business

ATA plans for cancellation of existing REA contracts; opposition to certification of non-scheduled carriers and reorganization of Air Cargo Inc.

A vigorous drive by the scheduled airlines to capture more of the air cargo business into which the non-scheduled carriers have made heavy inroads was underway last week as CAR, as the regulatory trust, prepared for an executive inquiry into the place of freight forwarders in the complex air cargo picture.

The scheduled operators set out on their long-studied campaign (Aviation News, June 10) with claims for increased service and reorganization of Air Cargo, Inc., as a service rather than a research group.

The Civil Aeronautics Board, looking toward its air freight forwarder task, launched a complete study of these indirect air services and whether they should be certified in the first investigation on such a scale. Board action will mean disposal of virtually the entire freight forwarder question, including the status of Railway Express Agency. Scrutiny of Northwest Airlines' air cargo agreement with REA remains a separate matter.

Air Transport Association through which the airlines are acting to strengthen their position as cargo carriers, will oppose the certification or exemption of indirect air carriers. It also will object to certification of direct air carriers of property between points as in areas "which will be adequately covered" by carriers already certificated.

ATA has its own comprehensive plan to give the public a fully coordinated air cargo service. As approved by the Association's Board and membership, the desirable-based plan calls for (1) action individually and jointly to improve service between off-airline as well as airline points, and

(2) an operating setup for Air Cargo, Inc., as a source of joint facilities and services.

First of these contemplates eight changes:

- Participation by all certificated carriers in the exercise of property.
- Reimbursement of the difference between air express and air freight.
- Cancellation of existing contracts with Railway Express Agency.
- Publication of a joint air cargo tariff (under agreement already on file with CAB).
- Publication of joint rates where reasonably justified.
- Arrangements for handling interline shipments.
- Through-service or interchange agreements with surface transportation companies, including Railway Express and major truck firms.

REA's air express is the only

property service in which all scheduled airlines participate. The special air cargo committee that set up the plan pointed out that cancellation of present REA contracts would not mean that REA would relinquish its prerogative as an air cargo pickup and delivery agency and a connecting surface carrier. The airlines would continue to use REA facilities whenever possible.

Under the second part of the program, Air Cargo, Inc., would not become an indirect air carrier, but would serve the airlines indirectly in their scheduled operations. Among the services suggested are pickup and delivery, directly or by contract, possibly utilizing facilities of REA, joint facilities and personnel at airport cargo terminals, perhaps through agreement with the newly-formed Airlines Terminal Corp.; preparation of shipping documents, operation of local clearing houses for collection of shipping charges, and a central purchasing agency for air cargo supplies and other items, and arrangements for interchanges of traffic with surface carriers.

The plan was approved in principle by ATA's Board, who dis-



FULLY ARMED BRISTOL BRIGAND:

Usual arm of the Bristol Brigand Brigand showing single engine performance with full load including an externally slung torpedo and eight rail launched rockets. The Brigand is built for use as a long range torpedo bomber, more later and also bomber. (Press Association photo)

Hey, get a lead of us!

You may have called us "Major" in the past. Or "Al", or even, "Sir."

But in the future, we expect you to add "Senior" to us in "Senior Major Al" for you too, we get a letter from Royal Canadian Air Force, Royal Canadian Air Force, 104, Rue de la Paix!

Not only has Senior Major been reading the Perch for a long time, but he says, "The Little Known Facts About Well Known Facts Dept. has always called my special attention. And he goes off by saying it is 'But' which makes him our first International Perch Pilot (3rd)

His conclusion is on the way because "The last head of the 'Rainbow', in which three planes the F-47 have been tested, is enough to drive 30 average sailors on a week's trip from San Francisco to New York!"

Now, if our final way down in the air is quick, you might wonder on up here should normally be able to make up a Little Known Fact (with proof) and one just continues as a Perch Pilot (3rd).

Dear Reader, 307 Helen St., Camden, Ark., 681



that long distances can be hauled into places now under construction.

\$1,500-Mile Flight.—The Devenish's 9,500-oz. flight would add little to the roster of the B-39, proved in combat and previous high-speed, long-distance flights. But it did focus attention on the forthcoming B-50, a heavier, more powerful version of the B-39 now being built by Boeing Aircraft. Already working on an order for 40 B-50s, Boeing had its backlog fattened last week by an additional AAF order for an undisclosed number of the planes.

The B-50 will have a design gross weight of 144,000 lb., against 105,000 lb. for the B-39. (Slightly lighter, the Devenish took off at an overload of 147,000 lb.) It will be powered by four Pratt & Whitney Wasp Major 3,245 hp. engines driving Curtiss electric reversible screw propellers. The B-50 is powered by Wright Aerochemical 3,350 engines of 3,200 hp. each. The B-50 will have a larger tail area thermal-dragging, greater range, and speed. In its development, 300-400 engineering changes from the B-39.

While failing to achieve a world's distance record the Devenish's accomplishments were considerable. Their true extent probably will not be realized publicly for some time. Trans-Polar flights are not new and there is a wealth of information about weather and navigating conditions in the Arctic. But the observations made by the Devenish's crew will fill in a check here and a chunk there of the AAF's knowledge of the part of the world through which it wants any future aerial attack will come and where it will have to be organized.

\$151,000 lb. Gross.—In the same manner, it has long been realized that the shortest distance between a great many parts of the world for commercial operations is over the Arctic. There are neither the men nor the need for such operations at present. But when there are, data collected during the Devenish's flight will be valuable.

The Devenish took off from Hickam Field at a gross of 147,000 lb., carrying 13,800 gal. (50% tank) of fuel. Its average speed over the route was about 240 mph, possibly the fastest ever made on a flight of such duration. En route, the plane averaged as high as 22,000 ft. Both the speed and operating altitude were new for long-distance flights and are bound to furnish additional knowledge to the AAF.



Pointing Toward Polar Paths. AAF's Boeing-built B-39 Pioneer Devenish on a test flight in October prior to its over-the-Pole hop to China. (Press Associates photo)

Powers Outlines Preparedness Plan

AAF Materiel chief outlines pilot production line technique to be used.

A revealing glimpse of AAF's plan for pilot production lines as part of its overall industrial preparedness program has been given by Maj Gen Edward M. Powers, assistant chief of air staff for materiel, in a speech delivered under circumstances as interesting as the content.

Gen. Powers introduced Col. Brig Gen John C. Gordon, director of materiel command, before the Society of Automotive Engineers (Automotive News, Oct. 5) Gen. Gordon's speech, which was previously circulated and not widely drawn, dealt broadly in general terms with preparedness in aircraft plants. Gen. Powers was main speaker.

Powers Details—He said: "As an intermediate step between comprehensive paper mobilization plans and complete tooling for mass production, pilot lines for high production tools for one very heavy bomber and one fighter and major components of these aircraft are planned. Under this plan a manufacturer would develop a complete layout for his entire plant as well as be required for mass production operations, prepare all necessary engineering drawings, master tools and gauges, together with the necessary sequences,

routing and operation plans; to enable him to design and fabricate the pilot line of high production tools.

"The pilot line is defined to include one each of all the high production tools, jigs, and fixtures necessary for the wartime type of operations. This means that where duplicate dies or fixtures are required to achieve the volume output, only one of each type would be fabricated. It is contemplated that the duplicate tooling required would be constructed during the production acceleration period after the start of mechanization, while the materials are being fabricated and production personnel trained. The parallel tooling for major components will include engines, landing gear, propellers, fuselage, superchargers, instruments, fire control equipment, and electronic equipment."

Industry Working.—Such details of industrial preparedness plans have not previously been made officially, although *Automotive News* published the broad outlines Aug. 13. The fact that Gen. Powers is so specific in his speech, where Gen. Gordon had seemed to be general indicators that industrial preparedness planning is so far along that officials from now on will be definite in their statements to industry.

The aircraft industry, in particular—while working closely with the Army-Navy Business Board which is in charge of industrial preparedness—has been awaiting some clear-cut indication of what is expected of it. It is believed that Gen. Powers' speech, as well as future statements, will furnish this look, as has a recent meeting of industry leaders with Donald Nelson, President Truman's "coordinator" as stand-by plants and industrial preparedness.

Mallard 10 Place Amphibian Latest Plane in Grumman Line

\$115,000 price tag on new aircraft aimed at air carrier and executive transport market; tests reveal good performance and high speed.

Aimed at the scheduled and non-scheduled air carrier markets as well as the rather restricted market of private owners and firms which can afford to own a \$115,000 airplane, the new Grumman Mallard, a 10-place amphibian, offers advantages which make it a good buy in many respects, at that price. Most interesting thing about the plane to prospective owners is its high cruising speed (158 mph) and a top speed of more than 300.

The Mallard is so fast that it offers remarkable comparisons to most landplanes of the same capacity and power class. (Power plants are two 600 hp. Pratt & Whitney "D" Wasp engines of 100 hp., turning two aluminum Hord's Hydromatic flat-leaf-hydraulic propellers.) Grumman Aircraft Engineering Corp., Bethpage, Long Island, is proud that the Mallard is the first amphibian to pass the latest stringent CAA tests for a Scheduled Air Carrier Operations rating, and adds that "the majority of airplane now engaged in scheduled airline operations would not be able to qualify for this rating." (Presumably Grumman refers to the new CAA Part 64 rating, and to the fact that the Douglas DC-3, have been exempted from this rating for a limited period.)

Advantages of the amphibian plane cited by Grumman include:

- Speed.**—Having emergency water landing facilities available which a landplane could not use, and hence

ing a rugged hull structure for comparatively safe forced landings on uneven terrain.

Convenience.—Having downturn landing facilities available on the waterfronts of most large cities, eliminating long motor rides from outlying airports used by land-planes, and hence lake landing facilities in certain areas thus easily available to business and taking executives.

The all-metal, high-wing monoplane Mallard in the first Grumman equipped with tricycle retractable landing gear. The non-wheel retractable into a small wheel-tight compartment in the hull nose, while the main wheels are drawn into cutout wells in the sides of the fuselage.

The Mallard hull is designed for exceptional seaworthiness with maximum spray on rough water and minimum drag in a calm. A deep keel in the hull bottom is designed for smooth water landings and quick takeoffs.

Luxury fittings in the passenger

cabin, include complete upholstery, carpeting and soundproofing, with ventilation by a thermostatically controlled heating and ventilating system with individually controlled fresh air ducts. The forward compartment has two full length dinette between cabinets and tables finished in natural wood veneer. Center sections of the dinette are retractable for installation of portable oval tables. The aft compartment contains four reclining chairs in conventional airline arrangement, a dressing room with lavatory, mirror and toilet, and a large lounge compartment easily accessible in flight. Other fittings include recessed fluorescent lights, built-in smoke stands, and a reheatable cabinet.

Since the Mallard is quoted at over 1,000 miles it is credited with good engine performance, having a single-engine ceiling of approximately 10,000 ft. and has made more than 41 single-engine takeoffs with full gross load (13,500 lb.).

The plane is equipped with the latest safety devices including dual brake systems, dual hydraulic pumps, with an auxiliary hand pump, engine fire extinguishers, and an automatic fire detector which gives warning in the cockpit and puts fire extinguishers in operation.

Passenger compartment is roomy, fitted with dual controls. A small



Amphibian Interior. Looking forward to pilot's compartment, interior view of Grumman Mallard amphibian's luxurious passenger cabin shows facing dinette and engine fire extinguishers accommodating 10 passengers, plus crew of 2. (McDonnell and Kelsey photo)

Decca plans for the future

The Decca Navigator Company realize that the great expansion of Civil Aviation during the next few years will produce many severe problems. Forecast amongst these will be that of Air Traffic Control. Since we wish to show the provision of a satisfactory environment and along the route, the problems of traffic control in the vicinity of the main airports may well prove to be the backbone of the entire programme of air expansion; that has led us to

To this end the Decca System is being planned to solve both today's and tomorrow's problems.

The Decca Trench Control Unit, being development of the Decca Navigator System, already goes far to eliminate what could well be a major problem. This unique and revolutionary instrument can only provide the pilot with all information necessary to allow him to follow any required track but also includes within selection of any one of a large number of standard approaches to the terminal airport.

Chances along among the facilities are the following —

- * *Through flight on instrument indication is given to the pilot of his position with respect to required route and his displacement to left or right of track in terms of distance.*
- * *Miles to destination.*
- * *Ground speed.*
- * *Altitude cleared to instant altitude.*
- * *Ability to select any one of a large number of standard approaches to the airport.*
- * *Ability to select any one of a large number of standard circuits.*



All the above facilities are given automatically by means of the Decca Trench Control Unit working in conjunction with the Decca Navigator System. This unit, by reference to the Decca Navigators, constantly checks the position of the aircraft and compares this position with the required position necessary to maintain the intended track. Confidently, accurately and automatically it presents the results of these checks to the pilot by means of a simple display panel.

An outstanding feature of the equipment is its flexibility. Any number of standard routes can be followed; they can have any desired shape and even include designs to avoid high ground. When flying such a route complete freedom of movement exists and a pilot can alter course to avoid bad weather and recover original track at will. Most important of all the many facilities are those associated with the approach and orbit sections. By means of these sections, any set of many standard approaches to an airport can be followed. These approaches and orbits can have any desired shape or length. They can be designed to ensure maximum traffic flow into any airport under all conditions of traffic and weather.

All who are studying the future of modern Civil Aviation will appreciate how great the problem these unique facilities will play in increasing the capacity of airport traffic controllers. It is not the policy of the Decca Navigator Company to provide just an aid to navigation, but an instrument capable of controlling the systematic flow of air traffic along the air routes and into the airports with safety, accuracy

and reliability.

Adoption of the Decca System of Navigation today ensures the ability to keep pace with the demands of tomorrow's flying.

The Decca Navigator Company will be happy to discuss with all responsible for the planning of civil aviation the part this new development can play in solving their navigation and air traffic control problems.

The Decca Navigator Company, Limited

1-3 Bruton Road, London, England telephone: Reigate 3511 telegrams and cables: Decca, London

SALLES FIXED BASE OPERATIONS SCHOOLS

New Cockpit Designs Stress Pilot Protection for Crashes

Cornell Medical College recommends changes in structure and interior after extensive research and crash injuries.

Wider public acceptance of the personal airplane, as anticipated in the near future with reduction of barriers of lightplane flying now made possible by designing greater protection for pilot and passengers inside the cabin as cockpit following recommendations of Crash Injury Research, Cornell University Medical College, New York.

Recommendations are based on an extensive survey and analysis of aircraft crashes, which was started by Crash Injury Research for the National Research Council, during World War II. Now the research work, in best directed toward causes of injury in lightplane accidents, under financial sponsorship of the Personal Aircraft Council of the Aeronautical Industries Association, the Aircraft Owners & Pilot Association, the CAA, Army and Navy.

Research Studies—Studies of the research organization, headed by Dr. Hugh De Haven and assisted by Margaret Holburn, former WASP and test flyer, are based on CAB safety bureau and Army and Navy accident investigations. By analyzing reports so to design a plane, restructure and structure of focus, injury to occupants, and injuries caused by airplane structure, certain general recommendations in personal plane manufacturing, for safer designs are being developed.

The studies may be divided into two main classifications.

- 1. **Injuries resulting from insufficient protective cabin structure about the occupants.**
- 2. **Injuries resulting within the protective cabin structure, from insufficient holding capacity of safety belts, and from protruding controls and other hard or sharp objects with which the occupant may come in bodily contact.**

It has been determined that the human body can survive impact

loads of 40 times the force of gravity, if it is applied briefly at right angles to the long axis of the body. However, in withstanding such a force in a plane crash, the pilot would need a cockpit which would hold together under such a force, and would need strong supporting structure to hold his body in place.

Shielded Cockpit—A relatively well-shielded box-like structure is provided in many conventional tractor-type trainer planes by the engine mount, landing gear mounts and wing arrangement. However studies indicate that a number of existing personal plane cockpit structures will not withstand more than 10 to 15 times the force of gravity.

On a basis of Crash Injury Research recommendations a number of manufacturers are now developing

new cabin designs with increased occupant protection. A similar design project is being undertaken by the U. S. Navy, which is developing new designs designed to hold together under a 40 G force, and equipped with protective harness sufficient to withstand such a force.

Need for stronger safety belts has been recognized in the new Part 83 of the Civil Air Regulations which requires belt assemblies on planes coming out after Jan. 1, 1947, to withstand a 2,000 lb. pull, a one-thousand pound increase over former requirements.

Manufacturers have already developed webbing for safety belts which will hold 2,700 lbs. This will not only provide a safeguard against loss of strength by deterioration, but will make possible use of two-inch safety belt assemblies which have a buckling capacity of more than 4,800 lbs. Crash Injury Research has been advised that some manufacturers are planning to exceed the new minimum CAB requirements and provide 4,000 lb. safety belts on their forthcoming models.

Head Injuries—In plane accidents where the cabin structure withstands the shock of impact, most serious cause of fatality or serious injury is head injury, while poorly control airplane with improperly designed wheels have been the cause for most chest injuries, including pressure wounds. De-



RYAN LIGHTPLANE MUFFLER

Ryan Aeronautical Company, San Diego, has announced a new eight-pound stainless steel engine muffler for 65-hp lightplanes which incorporates complete exhaust system, eliminates 30 percent of engine noise both less than 2 percent power loss, and provides for carburetor heat. An Aeromaster, Inc., engineer, national retail outlet for the new muffler, will exhibit it at the National Aircraft Show, Cleveland, May 14-24. Above, Betty Hughes, San Diego girl, first inspects the muffler installation on a lightplane. Diagram shows details of installation. Similar mufflers are being developed by Ryan for larger personal plane engines.



NACA LIGHTPLANE COWLING:

Little known modification by NACA adaptable to lightplanes, is the cowling designed in wartime for the Kasser-Pfeiffer Model 23 Trainer. Later revised in design for a radio-controlled insect plane, shown at left shows the original cowling on the Model 21, while at right, is shown the NACA designed cowling with large single air inlet, low drag design, carefully shaped discharge vent, modified exhaust tubes. Both cowlings housed the same Franklin 230 hp engine.

sign trends are away from control wheels cast of brittle metal, and toward wheels with banded area of somewhat ductile metal curved to conform to the wheel.

These will provide "anti-burns" support of the face, and prevent the head from contact with forward structure, in many cases. Good protection has already been shown in several accidents in places which used such wheels. Teleran and North American X-100 are among planes using this type wheel. (AVIATION NEWS, Sept. 9)

Common sense design of instrument panels in a number of new planes has already answered such obvious hazards as primers, knobs, turn tab handles, switches, etc. Some new planes will make use of a "fusible cushion" type instrument panel of this curved sheet metal which can be dented deeply by the pilot's head without loss of consciousness or serious head injury. This and other humanistic developments eventually will make the panel a shield against injury rather than an injury cause.

Pilot Recommended—A pivoting arrangement on the backrest of the front seat of the tandem trainer is recommended as a safeguard for the rear seat occupant, and is being tried on at least one new tandem. The heretofore rigid framework of backrests has been cause for a number of serious and fatal head injuries to rear seat occupants.

Increased distance between the pilot and the nose of the plane, so that the impact of a crash will be

absorbed by the forward structure's collapse, is also desirable. A number of new plane designs are placing the pilot well to the rear of the ship.

Crash Injury Research is confident that if its recommendations for safer plane designs are carried out that pilots of such planes will come through extremely severe accidents with only moderate injuries, and that personal plane liability and serious injury records will show a sharp reduction in frequency.

It is anticipated that despite any changes in designing personal planes that are non-superior and controlled in all conditions of flight, the private flyer may be expected to continue to run out of gas, to fly into bad weather, or fly low to "bump" the back of his girl friend. As long as he does any of these there will continue to be personal plane accidents, and the most logical approach to safeguarding him is by building his vehicle to protect him from the effects of such accidents.

Michigan Aviation Groups Seek Constitution Change

Michigan aviation interests lobbied by the state aeronautics commission, are conducting a vigorous campaign for an amendment to the state constitution which will permit the state to take advantage of the federal airport aid program. Unless the amendment is voted, the state will lose over \$14,000,000

in federal funds which was to have been made available under the proposed matching program. The Michigan constitution in its present form does not authorize the state or political sub-divisions to establish airports, and construction of approximately 150 airports by accession funds from the state, cities and counties has been declared unconstitutional, in a recent interpretation, which also thwarts the maintenance and operation of the existing fields.

Skycraft Test Flight Indicates No 'Bugs'

Following a recent successful first flight, extended tests of the Skycraft Mfg Co (Veebe Co.) Skycraft four-passenger personal airplane are expected to begin immediately.

Because the plane is a twin-beam pusher with its 180-hp Lycoming engine buried in the fuselage behind the passenger cabin, particular emphasis has been in the impact of Test Pilot George Lyle that low cylinder head temperatures maintained throughout the first flight (Sept. 15). Apparently successful testing of the Skycraft engine accounts for one of the most persistent "bugs" noted in aircraft using the type of engine installation.

Performance tests will determine the plane's ability to meet design specifications of 140 mph cruising speed and a range of 650 miles with four passengers and 100 lbs of baggage.

While the Skycraft originally was associated as a plane to sail in the "\$5,000 class" (AVIATION

Ferguson Confirm

President Malcolm G. Ferguson, of Bendix Aviation Corp., last week confirmed in an official announcement the company's desire to "proceed no further" with its experimental personal aircraft development program. He said Bendix preferred to be a partner in all plane manufacturing companies rather than become a competitor, and would continue to produce aircraft parts and equipment for other manufacturers on equipment relating to personal planes. The Bendix decision to abandon its light-plane development project was first reported in *Aviation News*, Sept. 30.



A Teleran picture—air traffic control by radio pilot instrument.

Teleran—"radio eyes" for blind flying!

It is a television "information plane" between airplane and airport—with the pilot's questions given light-speed answers in a television screen mounted in the cockpit.

Teleran (a contraction of TELEvision-Radar Air Navigation) conveys all of the necessary information on the ground by radar, and then instantly transmits a television picture of the assembled data to the pilot inside the airplane.

On his monitor, the pilot sees a picture showing the position of his airplane and the positions of all other aircraft near his altitude, superimposed upon a terrain map complete with route markings, weather conditions and unmistakable visual markers.

tion. The complex problem of air traffic control is well handled by Teleran.

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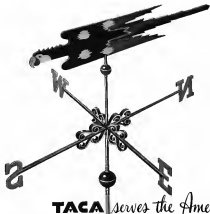
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DOUGLAS DC-8 AIRLINERS—Now TACA, in still another step in improving passenger service, has purchased a new fleet of dependable Douglas DC-8 airliners. Crossing at any time on foot to and from Laus Naciona, they will provide every passenger luxury—and with 94 seats (instead of the capacity 80), the very important luxury of spaciousness.

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PRODUCTION

Industry Warned Against Use Of War Time Techniques in Peace

California Tech professor cautions on production emphasis is positive management, urges more attention to design and engineering talent.

Increasing doubt is being felt among close observers of the micro-finance industry as to the long-term benefit of technological lessons learned during the war. Many feel that continuation of wartime practices may prove burdensome in peacetime.

Strengthening these observations is a study made by Prof. Horace N. Gilbert, California Institute of Technology, which stressed in particular the predominance in the wartime plant of the production viewpoint in company management. The number of production experts that was high in company management during the war is not suited for peacetime, Prof. Gilbert told the recent Los Angeles meeting of the Society of Automotive Engineers (AUTOMOTIVE NEWS, Oct. 25).

Competition Shifts Emphasis—In parallel, competition places greater demands upon engineering and design talent and reduces production to a secondary role. The demotion of top production personnel, reduction in their salaries and the restoration of engineering authority to its former position has been one of the most difficult problems of the reconversion period.

In many companies, certain key personnel from the production phase of the business have been retained in the upper management circle for obvious reasons. This practice, Prof. Gilbert points out, may create increasing friction and even generate unbalanced policies which may prove disastrous in the near or distant future, depending upon individual companies.

On the other hand, it might well prove equally disastrous to return to the private practice, followed by several well-known companies, of dividing prime production responsibility in design engineers. A careful balance, achieved by

perceptible 'deflating' of the production function and "inflating" of the engineering function, will be necessary if the demands of competition, particularly in the non-military field, are to be met successfully.

Learned Little—Generally the aircraft industry learned little from automotive practices during the war and Paul Gilbert states that even Willow Run, designed and operated during the war by Ford, utilized automotive techniques in only about 15% of its productive machinery. Wartime aircraft production methods for the most part were extensions of peacetime practices. The major changes were in more extensive "break down" of operations and more elaborate and expensive tooling.

He points out the hard unyielding fact that "the determining consideration as to whether method is volume," although several companies freely believe that wartime

high-value tooling methods are still valid, even when the "run" is as few as 20 or 30 airplanes. Although the risk of such thinking is great, these firms can enjoy a distinct competitive advantage, provided they possess an exceptionally able management.

One unqualified significant result of the war is that the tremendous volume of business created a large reservoir of production planning and cost estimating experience. In marked contrast to the prewar period, the engineering, production and accounting departments are now qualified to prepare highly accurate estimates as a new project, a fact of marked value to the industry today.

Major Disappointment — One major disappointment of the war period was the fact that the length of time required to introduce a new model into production was not reduced appreciably. Proof of this failure is the large number of prototypes, destroyed as early as 1942, that have shown for the first time since V-J Day. Gen. Gilbert lays the blame equally on inexperienced staffs and lack of positive guidance by the armed services. In contrast are the airline engineering departments of today which are providing distinctly more specific and determined procurement policies than did the Army and Navy during the war.

One technological lesson proved during the war was the remarkable gain afforded by full exploitation of the possibilities of a given type. By applied research and



CONVERSION CONCURSUS

Extent of conversion work being done by Aviation Maintenance Corp., Van Nuys, Calif., is indicated by the fact that 50 planes of various type lined up outside the company's shops. AMC in three months has handled \$3,000,000 worth of business, most with Argentine and Persian governments, and with airlines. It has 1,400 employees working two shifts and uses a 77-acre plant.

development of a given airplane, the aircraft industry has an interest for technological sciences at a far less cost and with greater assurance of progress than the random and often panacea effort devoted to radical, experimental design effort following the introduction of a successful prototype.

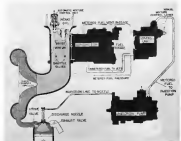
Prof. Chibbert does not believe that the aircraft industry has made optimum use of the great reservoir of scientific knowledge available. Yet he is confident that not only are profitable lessons to be learned, particularly in the field of management, but many companies must either master some of these or fail to survive the competition of those that have.

Battle for Aluminum Discounted by NHA

Ryan fears housing picture as federal officials seek to boost aircraft industry's share of program over \$4,000,000,000 mark.

The threatened battle over aluminum for housing, for airplanes, and beyond further products in use is not taken too seriously by National Housing Administration, which is negotiating with aircraft companies to build prefabricated aluminum panel houses at an annual rate as high as 500,000.

NHA spokesman says prospective aluminum production for next year is 500,000,000 pounds. Aircraft, they estimate, will take only about 100,000,000 pounds. The Housing plant at Seattle is building up production and plans are in progress to open new government-owned plants. Stockpiling has been approved a lot of current production. Approximate Waite Panel—11 output



CONSTELLATION'S FUEL INJECTION

Simplified diagram of the direct fuel injection system being put on the Curtiss-Wright 3550 engines of TWA's Constellation. While retaining the same carburetor, the system adds the carburetor as a master control which meters, or measures, the amount of fuel necessary for each bank of nine cylinders. Fuel and air is not mixed in what is labeled carburetor on the diagram. Each engine contains an injection pump for each of the two banks of nine cylinders. Each pump feeds the proper amount of fuel into each of the nine cylinders. Air is mixed with the fuel directly in the cylinder.

should be insufficient, NHA feels that need for aluminum in housing would justify preference by Civilian Production Administration. Much aluminum sheet is now being used as aluminum substitute for siding, which is unconvincing, on NHA's opinion.

Final approval by NHA engineers of the Lincoln House Corp. "waite" panel is now more step toward decision by aircraft companies to enter the field. The Lincoln house design seems destined for wide use in the pre-war program, both by aircraft and non-aircraft companies.

Aircraft engineers are interested in the high-strength panels as they are related to further development of metal-and-plastic sandwich structures for applications in light, heavily-loaded, high-speed aircraft sections.

Ryan in Picture—Douglas, Goodyear and McDonnell are still interested as far as the individual with NHA on housing manufacture. Ryan recently came into the picture. Consolidated is still interested, as are several others.

Unofficial reports are that Dou-

glas is being urged to consider a schedule of 300,000 houses per year, rather than the first-processed 100,000. Aircraft company output of houses in 1947, if they come out meeting NHA proposals would be greater than their production of airplanes, now estimated at less than 41 million for 1946.

From the West Coast, however, come reports that airplane builders are unwilling to commit themselves to proposals that they plunge into into emergency housing production.

Wright Vile Coast—Wilson W. Wyatt, national housing expediter, recently visited Los Angeles and left without having given from the industry more than a display of interest that was cool in the light of the apparent inability of housing experts to offer (1) specific contract proposals; (2) definite estimates of the probable life of any contract.

Speakers for both Douglas and Consolidated indicate that before contracts are signed many questions remain to be answered by government housing officials.

Douglas will have to be convinced that the company can come out of such a deal without an actual loss, and it also was specific in making estimates to determine the extent to which it will have to divert existing aircraft production and shift employees to housing manufacture.

Consolidated, also concerned with the possibility of facing a loss, has the added interest of learning when and where it might obtain metals and insulation materials.

Hughes Tool Co. Buys 1800 Shares of TWA

Purchase of 1800 additional shares of Transcontinental and Western Air common stock by Hughes Tool Co. has increased the firm's common holdings in the air carrier to 484,150 shares, according to the weekly stock transactions report of the Securities and Exchange Commission.

Approximate market value of the Hughes common holdings in the air carrier is \$64,150 shares, according to the weekly stock transactions report of the Securities and Exchange Commission.

Beaver Aircraft—Sale of 134 common shares, 41 per cent, by James Work Industries, TWA's common holdings in the company is \$1,150 shares.

Colonial Airlines—Sale of 208 common shares by Branch 7 Division reduced TWA's common holdings in the carrier to 844 shares.

Purchase of 100 additional common shares by Kerman Hamilton increased his total common holdings in the carrier to 1,150 shares.

Northwest Airlines—Philip D. Adams acquired 300 additional common shares, increasing com-

mon holdings in the carrier to 1,180 shares (market value, approximately \$36,000).

Goodyear Aircraft Will Make Caskets

Further expansion of Goodyear Aircraft Corp.'s non-aviation production will include caskets for refrigerators, as well as the manufacture of 35 experimental prefabricated aluminum and wood houses.

The company has done research on more than 100 articles which might be manufactured to keep its production facilities and workers in use. Current employment at the plant is 2,600, while before the war it was 900.

Goodyear has started tooling up on a \$46,480 order from the government for 30,000 caskets to be used for burial of the country's war dead. This order alone is expected to give employment to 600 throughout 1947.

Other non-aeronautical interests of aviation firms: Packard Camera & Instrument Corp. has set up a wholly-owned subsidiary at Burlington, Vt., to manufacture low-priced camera forms such as electric drills, fan blade workpieces. To be known as Packard Industries, Inc., the enterprise will employ about 150.

Radio Radio, Baltimore division of Bendix Aviation, is going to for mass production of frequency modulation receivers for homes. The company will also manufacture television receivers for both black and white and color when there appears to be a market for the radio.

Bendix is currently advertising a full line of home radio and radio-phonograph combinations, table and console models.



RYAN INSPECTION:

T. Claude Ryan, president of Ryan Aeronautical, and Rear Admiral Harold B. Salts, chief of Naval's Bureau of Aeronautics, during the latter's recent inspection of the Ryan plant. Ryan also has been elected chairman of the western region executive committee of the Aircraft Industries Association.

Navy Orders Production Of 24 Martin Amphibians

First production order for the P4M-3A has been placed by the Navy with The Glenn L. Martin Co. The initial order for the amphibian version of the Mariner flying boat is for 24 planes, with deliveries expected to begin early next year.

At the present time, that constitutes the entire production scheduled for P4M-3As. The only plan of this type the Navy now has is the prototype P4M-3A, Martin's program is based on delivery of two P4M-3As a month, the same rate presently in force for the Ryan ship.

Addition of the new Navy order, while no dollar figure was announced, is believed to put the Martin backlog in the neighborhood of \$20,000,000.

Boeing to Hire 5,600

Boeing Aircraft Co. payroll at Seattle will be increased 5,000 to a strength of 16,000 persons by April, according to Des Moines, Iowa personnel manager. The hiring rate is now higher than it has been at any time in the past two years, with 554 new and recalled persons hired in a recent week. The payroll was 10,480 as of Sept. 10 and is expected to reach 13,390 by Jan. 1.

New workers are being assigned to work on the B-29 Superfortress, B-36 Superfortresses and C-47 cargo transports.



ARGENTINE AIRCRAFT

The Argentine two-engine bomber is built by the Military Aircraft Factory at Córdoba. Designed by the Glushko, it is powered by two Pratt & Whitney 1,700 hp engines, carries a bomb load of 1,750 lb., a distance of 1,200 mi at a maximum speed of 402 mph. The factory was established in 1937 and has been constructing planes of its own design.

A FREE ECONOMY IS WORTH FIGHTING FOR

BUSINESS must take the initiative if the price decentral machinery, set up by Congress, is to be effective. The present price control law is far more than a set of instructions to the administrators of OPA; it is a challenge to business to be aggressive in speeding decentral decisions and in persuading the Price Decentral Board to adopt a strong stand for return to a free economy.

Thus far business has not met this challenge. Two months after the passage of the new price law not a single application for decentral of a major product had been filed by an industry advisory committee. This is due in part to the red tape controlling such applications. Nonetheless, a continuation of such inactivity on the part of business can well result in perpetuating price control far beyond the time either the present law or sensible economic policy require.

It was the clear intent of Congress to hasten our return to a free economy. In the legislation establishing the general control of prices, Congress formally declared its purpose to have it "terminated as rapidly as possible."

To accomplish this, the House originally approved a formula which would have made decentral mandatory when production had attained a prescribed level. The automatic decentral provision was dropped before the bill was finally passed, partly because of the uncertain effects of strikes on production. But Congress did not mean to return the timing and extent of decentral to the administrative discretion of OPA.

On the contrary, to assure living price control "terminated as rapidly as possible," Congress created a Price Decentral Board and gave it power to overrule OPA when the board finds price control should be removed. Moreover, it gave to industry the right and the responsibility to seek decentral. Also, it is a further effort to speed up the decentral process, it placed narrow limits on the time allowed for board decisions.

Congress had compelling economic reasons for doing its legislative best to speed up decentral.

1. It is by all odds the best way to eliminate the

bottlenecks in production and the black markets which have plagued the country since V-J Day.

Rigid price ceilings promote shortages of badly needed commodities by discouraging their production. Such shortages both upset the flow of production and promote black markets. At present a considerable part of American industry is strangled by shortages of critical parts and materials. Price control is much to blame.

2. There must be flexibility of prices if a round of new wage adjustments, which may be forced on industry early in 1945, is to be negotiated without gross risks of seriously curtailing production.

When, under the leadership of the national administration, the first post V-J Day round of wage adjustments was made, price ceilings were held rigid while wages were boosted. The result was a series of price-wage sequences which upset production. They would have been disastrous if we had not been in a seller's market, created by a tremendous accumulation of wartime shortages. In 1947, however, many industries will be in a buyer's market. It must be possible, therefore, to have wage increases reflected promptly in price adjustments if we are to avoid a repetition of the costly post V-J Day round of strikes, which often had wage control as the key move.

3. Rapid decentral is necessary to maintain a high level of employment and production.

Almost five years of price control inevitably twisted the factors of production and distribution far out of the equilibrium which would prevail in a free economy to which it is the clear purpose of the nation to return. Unless the return to a free economy is facilitated by a speedy and orderly decentral, the jolt of an abrupt return to competition can be expected to upset employment and production seriously.

It's Up To Business

To encourage speed and boldness in decentral, Congress provided for the reimportation of control over any prices which, after being released, might

get out of hand. The dangers of this sort are obviously exaggerated. During the 25-day period in July when there was no price control the Civilian Production Administration found that "manufacturers of finished industrial and consumer products have generally exhibited considerable restraint in increasing prices so much that increased costs."

All of this endeavor to speed up decentral and expand its scope is likely to be futile, however, unless business furnishes the driving power for the machinery Congress provided. OPA certainly will not do it. Neither can the Decentral Board be expected to go out and drum up cases.

The necessity for vigorous action by business in pressing for decentral is assessed by the fact that the general legislative standards to guide decisions by the Decentral Board are vague. They must be clarified and interpreted by decisions in specific cases.

The main principle to guide the decentral of non-agricultural products is that price ceilings should be removed when supply is in approximate balance with demand. But what precisely does that mean? The meaning will become clear only through Decentral Board decisions.

The same is true of the principle which makes automatic decentral of a non-agricultural commodity contingent on whether or not it "is important to business costs or living costs." Business must press cases which will give specific meaning to those vague terms if decentral is to get on again.

Cards Are Stuck

At present the government has the cards partly well stacked against rapid decentral.

First, the key members of the staff of the Price Decentral Board are holdovers from the Bowles regime which emphasized the importance of carrying on price control rather than speed in getting rid of it.

Second, in exercising his authority to prescribe regulations to govern petitions for decentral, the OPA administrator has required extremely complicated statistical and economic facts. Manufacturers who are sure they can survive any far-reaching board of the desirability of decentralizing certain of their products assert that they are blocked by statistical entanglements.

Third, OPA has discouraged business from moving immediately under one section of the law to speed decentral. This section provides that products "not important in relation to business or living costs" may be freed from price ceilings immediately and must be freed by December 31, 1945, unless OPA specifically finds they are important to these costs.

Instead of making it possible for business to move under this section now, OPA has issued rules which have the effect of blocking such a course until the end of the year.

In the light of obstacles such as these, it is not surprising that the record of decentral to date is not impressive.

Decentral Recused

Since June 58 there has been a drop from about 10% to about 50% in the total value of products under price control. But most of the drop has been accounted for by food products, which Congress took the lead in decentralizing, and by industrial machinery which was being decentralized when Congress acted. By far the larger part of manufactured consumer goods remains under control.

Thus, however, is no time for business to be discouraged. Rather, business should accept the obstacles put in its way as a challenge and work harder than ever for speedy decentral.

The case for decentral should not be stated in narrow technical terms. It should be based on grounds of broad public policy, and should demonstrate how a speedy return to a free economy can hasten the full release of the nation's productive power.

For example, there should be very clear demonstrations of how, in the many cases, rigid price ceilings—(1) discourage production of key parts and materials by making such production relatively unprofitable, (2) create shortages of key parts and materials which tie up broad ranges of production or result in piling up larded inventories of partially completed goods, and (3) thus cut away the foundations of a stable economy and the prospects of steadily sustained employment.

There should be equally full demonstrations of the well known sequence from shortages to wholesale price ceilings to black markets. Most prices are rolled back, but the most is relief under the course.

A free economy at long last. Liberty is preserved only by the constant struggle of those who believe in it. Neither the interests of the nation in a strong and well-balanced economy nor the interests of business itself will be served by drifting at this time. Now is the time for business to lead a strong offensive for speedy decentral of price control.

James H. McGraw, Jr.

President McGraw-Hill Publishing Company, Inc.

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Court Decision Questions CAB Review of Presidential Decision

Further proceedings in reopened Hawaii case stayed by Circuit Court of Appeals backing of Pacific Overseas Airline plan.

By MERLIN MICKEL

CAB attorneys, including chairman James H. Lunde, are giving close scrutiny to last week's Court of Appeals decision that stayed the Board's decision that stayed the reopened Hawaiian case and would estimate the immediate issues to question the Board's authority to reopen any case decided with presidential approval.

The Board's Hawaiian case decision (Aviation News, July 8), questioned by President Truman, authorized United Air Lines to operate between San Francisco and Honolulu, but because of a 2-to-1 split on whether United or Hawaiian Airlines should be certified between Los Angeles and Honolulu, the Board immediately announced this phase of the case would be reopened.

Added Weight—The court's announcement questioning the action lends added weight to the decision previously pronounced by the Second Circuit Court of Appeals in the American Export case that presidential action in international route cases removes them from judicial review.

Stay of the Board order was sought by Pacific Overseas Airlines of Oceanside, Cal. POA filed application for a Los Angeles-Honolulu route six weeks after the Hawaiian decision, and followed it two days later with a petition to intervene. This the Board denied, and POA took the case before the U. S. Court of Appeals for the District of Columbia.

On the day the case was heard, POA brought to court an affidavit from the Army to support its contention that war reserve commitments had prevented it from making application for the route before it did so. In granting the stay, the court recognized that the affidavit was not in the record before the Board and could not be considered by the court, but remanded

it, apparently constituted final disposition of the entire proceeding (see pending). Perhaps, it was suggested, the Board should institute a new proceeding to determine whether another carrier should be certified between the U. S. and Hawaii and, if so, who the carrier should be.

The court foresees the possibility that applicants demand certificates in the original proceeding might see fit to renew their requests, confining them to a route between Los Angeles and Honolulu, in which event the Board might consider them with POA's application.

At CAB, the court's observation was being examined for possible effect on other international cases. Notable the Latin American case, which the Board already has announced (Aviation News, July 30) it would reopen to determine need for additional through services between eastern U. S. cities and the Canal Zone via West Indian ports. Petitions have been filed to reopen the Pacific and South Atlantic cases also.

Domestic route cases, frequently reopened by CAB, would not be affected, since they do not require presidential action.

Anglo-Italian Airline Plans Extensive Service

British European Airways operations under its new civil air agreement with the Italian government will be confined to help for the time being, but the company hopes to extend them before long to most European capitals and South America.

The agreement provides for an Anglo-Italian company to be called

"Euro Lines Helvetic International" (International Italian Airlines) with 80 percent of its capital of one million lire (over \$4,800,000) as Italian funds and 20 percent held by British European Airways. B.E.A. will start services as soon as possible.

Steamship Lines Wait Air Verdict of CAB

Decision now on final attempt of surface carriers to obtain safe haven from board before passing fight to Congress.

None of the nation's leading steamship lines last week awaited CAB's answer to their latest plea for review of policies barring them from the airlines and at the same time realistically probed efforts to obtain relief through Congressional action.

Recent oral argument before the Board, in which a complete reappraisal of the air-sea question was sought, is being viewed as the final attempt by steamship interests to obtain satisfaction from CAB as presently constituted. A Board refusal to reconsider its position or to issue a statement contradictory to the surface carriers would leave appeal to the courts and Congressional amendment of the Civil Aeronautics Act as the only resources, with the latter action the most promising.

Revised CAB Mistake—Robert E. Kliese, Jr., counsel for the sea steamship companies, renewed the

surface carriers' contention that Congress never intended to exclude them from the air through Section 404 (b) of the Civil Aeronautics Act. He said that as a result of CAB's mistakes interpretation of Congressional intent made certification now still being limited to a favored few.

Recent international agreements have worked out so that competition between shipping interests directly or indirectly have been permitted to engage in air transportation with this country, Kliese asserted. He pointed out that in Great Britain, France, The Netherlands and other countries complete sea-air competition is achieved at a government level and that some foreign operators are already advertising one-way-by-air, one-way-by-sea services.

Admiral Backs Lines—Both Kliese and Vice Admiral William W. Smith, chairman of the U. S. Maritime Commission, emphasized that overcast flight traffic follows the government line and that of the latter serves by foreign airline the former will travel by foreign surface carrier. Admiral Smith and CAB and the Maritime Commission should get U. S. commercial air and sea lines in a position where they can complement each other in providing a solid front against foreign flag competition and be a nucleus for adequate national service.

Senator Tipton, Air Transport Association counsel, asked the Board to refuse the steamship companies bid for extension of the air-sea controversy, asserting the sea-

Berbe Rules

KLM, Royal Dutch Airlines, believes in moderation in all things. Employees have been advised at Karachi, India, that it's all right to accept an agent from a patron but that anyone detected taking more than one will be discharged for accepting a bribe.

face interests were seeking to obtain another hearing on thoroughly argued issues. CAB Chairman James H. Lunde and other Board members appear skeptical that sufficient new factual evidence is yet available to prove that American surface carriers are facing destructive competition from foreign sea-air combines.

Airlines Oppose Commuters Airport Air Taxi Service

Asserting that any further traffic congestion would dangerously overload the city's airports, Northeast Airlines, Eastern Air Lines and Island Air Ferries recently opposed the New York area shuttle and feeder service proposals of Air Commuting, Inc. in oral argument before CAB.

The opposition, to be conducted with Gramman Mottled amphibious, has already received the endorsement of a Board examiner and the Port of New York authority.

Air Commuting told the Board that it should be granted a certificate.



AIRMAIL COMES TO GARY:

The helicopter arrived to the ground in a G-2, 1st, school sent with a load of airmail from Chicago as part of helicopter experiment tests being conducted in that area by the Post Office Department. (Above photo)



INSIDE THE TUDOR II:

Day and night interiors of the Aero-Tutor II, which has been test flown successfully (Aviation News, May 6), are shown above. The British-built craft will be used by BAC. With accommodations for 40 day or 30 night passengers, it will have a range of approximately 2,500 miles. Gross weight is 35,000

lb. This compares with 28,000 lb. for the Tudor II, which will carry 32 night or 24 day passengers, with a 4,200-mile range. Both ships, on which cruising speed is 245 mph at 75,000 ft., are in production. Each is powered by four 1,600-hp Rolls-Royce Merlin engines.

case to test the feasibility of an novel airport-to-airport, airport-to-air connecting links, adding that Midwest and Floyd Bennett Field will soon receive operations at LaGuardia. The carrier noted that since it planned contact flight operations only, it would not contribute to congestion among from northeast airlines.

Northwest Officials Plan Orient Route Conferences

Northwest Airlines representatives are to leave for the Orient this month to arrange landing rights in Japan, China and the Philippines for NWA's trans-Pacific service.

Plans for inaugurating the operation around Feb. 1 were discussed during Northwest's annual stockholders' meeting recently, at which all officers and directors were re-elected. First DC-4 service flights to the Orient is scheduled before the end of the year.

Stops Requested

American Overseas Airlines has requested CAB permission to serve Bremen, Hamburg, Geneva and Cologne, Germany, on the North Atlantic route.

CAB Hearings on Gander Crash Scheduled for N. Y.

Hearings on the recent American Overseas Airlines DC-4 crash near St. John's, Newfoundland, were scheduled for New York City late last week, but CAB safety officials voiced only faint hope that the cause for the accident could be established definitely.

With no indication of engine failure, and in view of the clear weather, investigators were at a loss to explain why the plane had been unable to clear a 1,500 ft. hill some twelve miles from the village. Thirty-one persons died in the disaster—most in the history of U. S. commercial service.

Eastern Crash Caused By Broken Fuel Line

Crash of an Eastern Air Lines DC-3 near Chesler, Conn., Jan. 14 probably was caused by failure of a fuel line or fuel line connection, resulting in an engine fire and subsequent collapse of the left wing, a CAB accident investigation report states. All 14 passengers and three crew members died in the crash.

Evidence that the plane's crew



LUMBER LOAD:

The box car shortage led to what United Air Lines officials believe was the first large-scale commercial lumber shipment by air when Eugene, Ore., lender loaders sent two 16,000-lb. piece loads of plywood sheets and flooring from Eugene, Ore., to Salt Lake City. Air freight shipment of deer and venison meats from Portland to Salt Lake City also was arranged.

was unaware of the fire and thus had made no effort to control it again. Underlined the need for automatic fire detection equipment, CAB and The Board noted that as a result of the Chester crash and other accidents involving fires in flight during the past year new fire prevention regulations for transport planes were promulgated last month (Aviation News, Sept. 18).

Indian Air Administration By Regional Control

Creation of two administrative regions by the Indian Civil Aviation Directorate, one at Kanak and the other at Dum Dum near Calcutta, has the effect of dividing Indian air transport into an eastern and western system. Main trunkline traffic will go via these two points, but internal airways are expected to develop mainly on two north-south lines pivoting on the regional centers.

Bombay, Ahmedabad, Jaipur (Raid), Lahore, Jodhpur and Delhi will be under the Kanak jurisdiction, and Calcutta, Cawnpore, Allahabad and Madras under Dum Dum.

Estimates are that by the end of the year 119 airports will have been taken over from the RAF by the newly-created Air Transport Licensing Board, which is charged with helping integrate India's airways system and upholding international conventions.

Wiggins Seeks Five Copter Routes Out of Boston

E. W. Wiggins Airways, Inc., Norwood Mass., recently-certificated New England feederline, has asked CAB authorization to operate helicopters over five circular routes radiating from Logan International Airport, East Boston. Mail, passenger and cargo service to 53 eastern Massachusetts communities is contemplated in the application.

The move by Wiggins closely follows a CAB examiner's recommendation that Yellow Cab Co. be certificated for helicopter routes in the Cleveland area (Aviation News, Sept. 18) and new helicopter bids by Southwest Airways Co., west coast feederline. Southwest, which participated in the Los Angeles area helicopter hearing last month, recently applied for three main helicopter routes radiating from San Francisco Municipal airport to San Jose, San Rafael and Vallejo.

Auto Air Delivery

The British-built Bristol Freighter, on loan through 11 companies in North and South America, made the first air delivery of an automobile at Boston when the Austin sedan that had been owned in the ship's hold (Aviation News, Sept. 18) was unloaded there on consignment to a local company.

Northwest Mail Rate

Northwest Airlines has asked CAB for a temporary mail rate of 15 cents a ton mile on its new North Pacific route. The carrier has one round-trip daily between Seattle and Anchorage, Alaska, and intends to start New York-Chicago-Anchorage service via Minneapolis, Canada, shortly. Operations to Japan, China and the Philippines are to begin early next year.

IATA Traffic Group Studies Rate Changes

Action at the organization meeting of the Western Traffic Conference of International Air Transport Association indicated a desire to provide first recommendation of individual air rates for the western hemisphere on actual airline operating basis.

At sessions held near Rio de Janeiro, the Conference set up a cost analysis committee and will hold any proposed changes on the existing rate structure as western hemisphere routes pending its studies.

The committee was one of six appointed. Others will deal with government forms, traffic laws and procedures, tariffs, rules and schedules and conditions of carriage, and interline and agreements. Standard traffic forms tentatively drawn by IATA's Traffic

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AUTOMATIC APPROACH DEMONSTRATED:

United Air Lines, which is equipping its fleet with Sperry electronic approacher (Aviation News, Sept. 22) recently demonstrated automatic approach which the device makes possible in the first step along by a commercial airline. Picture shows motion picture camera about a VMP glide path transmitter at MacArthur Field, Long Island,

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Russian Hail Over Scandinavia

There is nothing mythical about reports of Russian buzz bombs over Scandinavia except the claim that the missiles are meteors. A week's intensive questioning in Denmark and Sweden justifies this conclusion.

Determined not to contribute to world unrest or "hysteria," the Scandinavians refuse to talk officially about the phenomenon, and have kept the lid on the subject to the extent of persuading press associations to stop dispatching reports which are not officially confirmed. The Swedes have confined one writer to an institution until he could "sober up" and cease talking on this unauthorized subject.

Talks with newspapermen, aviation officials, writers and other well informed citizens in Denmark and Sweden justify these statements—

The bombs are coming from the old German research center of Peenemünde, seized intact by the Russians, where scientific work is still underway. The bombs are cigar-shaped, jet-type missiles smaller than the V-2. They had been developed by the Germans before Russian occupation but had not yet been used. They are projected without wings or tails, according to an eye-witness who watched one of the flame-spitting missiles for five minutes as it purred across the sky toward western Sweden about 3 o'clock one afternoon early in August.

Some are believed to be remote controlled, and have been seen changing their course and heading eastward again like mechanical boomerangs. Actually, it is believed the Russians had no intention of permitting any of their hail to fall in Scandinavia, preferring that the missiles land in their own area for more careful observations.

Estimates of the range of these new models run as high as 3,000 miles, with a more popular guess 2,000 miles. Numerous eye-witness reports have come from the extreme northern areas of Sweden.

The bombs have slacked off the past few weeks, perhaps coinciding with successful progress of the Swedish-Russian trade negotiations.

Hundreds of Swedes have seen the bombs, and reports from distant points have tallied perfectly as to description of appearance, time and trajectory. Time lag noted at progressive locations indicated clearly that the missiles were not meteors.

About 10 minutes have been seen plainly over

Stockholm since June. Others have been reported over Sweden and Denmark. No reports have come from Finland, where strict censorship is imposed.

About a month ago a bomb fell in Denmark, killing several persons. No other deaths have been revealed. As in Sweden, the official Danish explanation of the accident was charged up to a meteorite.

One missile fell into a lake in Sweden. Government authorities quickly took over and dredged for the object, using some 900 military personnel. Witnesses said heavy material, well covered, was shipped out of the area during the night. Nothing has been heard of the matter since. Pointing out that August was the month of meteors, the government said the falling object probably was a natural phenomenon.

No evidence could be obtained that anything more than minute pieces of any bomb has been found. All of the objects which have fallen have disintegrated. One witness interviewed said these fragments were of magnesium—not the stuff of meteorites.

Although there is no censorship in Sweden, newspapers have been requested not to disseminate material abroad which would contribute to international hysteria. This appears to be another reason that the most recent press dispatches on the subject, still emphasizing the meteorite angle, have been coming from England instead of Scandinavia.

This writer sought an interview with one aviation writer said to be one of the best informed Swedes on the subject. A telephone call to his office revealed that he had just been sent to a sanatorium for alcoholism, after several indifferent discussions of his experiences on field trips to study the missiles.

A co-worker, also known to be well informed, and he had been given strict instructions by the government to make no comments whatsoever. Several Foreign Office officials in both Sweden and Denmark refused to speak on the subject, except to stress the fact that no missile had been found. "Miss hysteria" is the favorite official reason put forth by the spokesmen for these little countries which yearn so much for a peaceful world.

ROBERT H. WOOD



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Units of the compass-controlled directional gyroscope system. Instruments in foreground are a remotely operated compass and a new-type small directional gyroscope. Mr. Lynch is pointing to a larger gyro-instrument now obsolete.

MORE FREEDOM IN FLIGHT

THESE three G-E aircraft-instrument engineers, Messrs. Savage, Lynch, and Princi, were prominent in the development of the new compass-controlled directional gyroscope shown in the foreground. This is the first directional gyro that functions as if it had universal freedom of motion. It is not disturbed by sharp dives, spins, rolls, or other acrobatics. Teamed with the compass it becomes part of an electric instrument system that gives an airplane sustained and accurate directional heading in autopiloted flights. The system is so designed that errors usually occurring when compass and gyro are separate are automatically corrected. However, both can work separately if necessary.

In a plane, the compass is located near the wing tips and is electrically connected with the gyro which is considerably smaller than earlier models, and weighs less than the one now in general use. Unaffected by the earth's rotation, it points a steady hand to the set course, and frees the pilot from another routine task. Other electric instruments are being constantly designed by General Electric—including those for jet-propelled planes. Our engineers tackled many "can't-be-done" tasks during the war years. They'll be glad to help you with yours in the years to come. *Apparatus Dept., General Electric Company, Schenectady 5, N. Y.*



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